



ecology and environment, inc.

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International Specialists in the Environmental Sciences

MEMORANDUM

TO: Ron McCutcheon

FROM: Mark T. Roberts, E&E/FIT *MR*

DATE: February 22, 1984

SUBJECT: Trip Report - Phase XII Dioxin Investigation,
Del Vista Acres Site - Villa Ridge, Missouri
TDD #R-07-8312-12

Introduction

On January 23 and 24, 1984, members of the Ecology and Environment, Inc. (E&E) Field Investigation Team (FIT), with support from a Region VII EPA representative, performed the field work associated with the Phase XII investigative effort at the Del Vista Acres Dioxin Site in Villa Ridge, Missouri. The sampling, conducted along Del Vista Drive in Villa Ridge, was performed in accordance with objectives specified in a work proposal submitted by E&E under TDD# R-07-8311-12. The field work conducted on January 23 and 24 represented the first of three elements specified by TDD#R-07-8312-12. The second requirement was met on February 16, 1984, when a site map indicating all Phase XII sample locations was submitted to EPA. The narrative of field activities which follows is presented in fulfillment of the third and final requirement.

Background Information

The area of investigative concern during the recent field effort was a section of Del Vista Drive, a blacktop-surfaced city street in the Franklin County community of Villa Ridge, populated 300. The site lies in the E 1/2 of Section 15, T.43N., R.1E. and is accessible from Missouri Route M approximately one mile south of its junction with Missouri Route 100.

EPA involvement at the site was prompted by a report from [REDACTED], an area resident, indicating that the Bliss Oil Service had applied oil to the road surface on two separate occasions in 1977. Concern over potential TCDD contamination led Richard Raszula, Chairman of the Del Vista



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Acres Road Fund, to enlist the services of a private consulting firm in performing limited soil sampling in the area. Although the analytical results stemming from that sampling effort were not made available to the EPA, Mr. Raszula reported that the TCDD levels ranged from 70 - 90 parts per trillion. EPA and its contractors then performed a screening sampling along approximately 2,000 feet of Del Vista Drive in August, 1983. Only one sample of those collected was found to contain TCDD at a concentration above the action level of 1.0 ppb. That sample, taken from the north road shoulder of Del Vista Drive near its intersection with North Drive, yielded a TCDD concentration of 2.8 ppb. Several other samples taken during the August, 1983 investigation contained TCDD levels between 0.4 and 1.0 ppb.

With the analytical information at hand, an abbreviated work proposal was prepared to act as guidance in resampling the area which initially showed evidence of contamination. Road segments 4, 5, and 6 from the August, 1983 effort were each divided into two separate 100-foot segments to be resampled. Multiple aliquot soil samples would be retrieved from each of the six newly created road segments along both shoulders (0-6") and along sample lines parallel to the shoulders at 10 and 25 offsets (0-2"). Particular interest was given to the north shoulder of the August, 1983 road segment number 5 (RS 3 and 4 in the January, 1984 investigation). This segment had yielded the sample containing 2.8 ppb TCDD. In addition, one 100-foot segment was to be surveyed and sampled along each of three separate stream branches which cross beneath Del Vista Drive. All three are unnamed tributaries of Pin Oak Creek and are the recipients of the runoff from Del Vista Drive. Thus, three multiple aliquot sediment samples (0-6") would be taken, one from each of these streambeds south of Del Vista Drive. The site map which was submitted on February 16, 1984 should be consulted in locating any of the samples described above.

Field Activities

On-site Phase XII activity was initiated on January 16, 1984 with the collection of signed access agreements from the following area residents:



185 Del Vista Drive
205 Del Vista Drive
295 Del Vista Drive
315 Del Vista Drive
320 Del Vista Drive

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E&E team members Nancy Blackman, Mike LaBuda, and Mark Roberts obtained the access agreements and performed a brief site reconnaissance. [REDACTED], 205 Del Vista Drive, requested that samples be taken from two drainage gullies which carried runoff from Del Vista Drive. The gullies extended from the road to the backside of the [REDACTED] mobile home where surface runoff would pool during heavy rains. Team member Roberts agreed to [REDACTED] request for sampling.

On January 22, 1984, Roberts obtained verbal permission to sample the properties of [REDACTED], #3 North Drive, and [REDACTED], #2 North Drive. These agreements were confirmed in writing the following day.

On January 23, 1984, the proposed sampling was performed. An ice storm through the night delayed the teams' departure from the command post until 0900 hours. The sampling team which arrived on-site at 1000 hours consisted of the following:

E&E:	Joyce Bailey	Sharon Martin
	Nancy Blackman	Mark Roberts
	Mike LaBuda	Geoff Upson
EPA:	Gary Kepko	

A sample staging and decontamination area was established along the western shoulder of North Drive approximately 100 feet north of Del Vista Drive. Roberts and LaBuda surveyed and flagged the six 100-foot road segments along Del Vista Drive and the three 100-foot stream segments. The road segments were designated RS 1 through 6, beginning at the eastern extreme of the 600-foot section and terminating approximately 100 feet west of the intersection of Del Vista Drive and North Drive.

Between 1030 hours and 1500 hours, all of the proposed samples were collected except three samples on the south side of RS 6. These samples were to be taken from the [REDACTED] property. [REDACTED], a summer resident of Villa Ridge, had not yet been contacted for permission to sample. Therefore, the January 23 daily sample total at the Del Vista Acres site was 41 with the breakdown being as follows:

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Soil samples, multiple aliquot, road segments	33
Soil samples, multiple aliquot, Leonhardt property	2
Sediment samples, multiple aliquot, streams	3
Priority pollutant sample	1
Contractor duplicate sample	1
Rinsate sample	<u>1</u>

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Samples were collected with pickaxes and stainless steel spoons. The soil was placed in small poultry bags for transport to the sample staging area. There, the soil was thoroughly mixed and placed in 8-ounce glass jars which, in turn, were packaged in 1-pint paint cans for shipment. Standard procedures were followed in the decontamination of sampling equipment and gloves after each sample retrieval. An initial soap and water scrub was followed by an intermediate methanol rinse and a final TCE rinse.

At 1630 hours on January 23, the sampling team returned to the command post. The soil samples taken during the day to be analyzed for TCDD were packaged for shipment to contractor laboratories that evening.

On the morning of January 24, 1984, Ron McCutcheon - EPA, contacted [REDACTED] [REDACTED] at his winter residence and was given verbal permission to sample his property. At 1300 hours, a sampling team enroute to Rolla, Missouri stopped in Villa Ridge to retrieve the final three road segment samples from RS-6. Team members present included:

Joyce Bailey
Sharon Martin
Bob Wiggans
Geoff Upson

These final three soil samples elevated the site total to 44 samples. Their collection concluded the Phase XII field work in the St. Louis area. A computer-generated sample summary listing samples from the Del Vista Acres site is attached.

General Remarks

The extremely low temperatures which had plagued the previous site investigations during the Phase XII effort had moderated to relatively comfortable levels for the Del Vista

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Acres site work. Thus, the cold weather alterations to personal protective gear used at the previous three sites were unnecessary. The only deviation from the modified Level C protection which is normally employed on dioxin sites, was the substitution of ultra-twin respirators for the powered air purifying respirators (APR's). The APR's create a cooling effect inside the face mask that is unwanted when the ambient temperature falls below 25° F.

A total of 172 person hours had been expended when field activities were concluded on January 24, 1984. Completion of the site map and field report required an additional 13 hours. Thus, a total of 185 person hours were expended in the completion of all elements of TDD# R-07-8312-12.

MR/drh
Attachment

ST. LOUIS INVESTIGATIONS
SAMPLE SUMMARY
01/24/84

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EPA #	SITE NAME	LOCATION
-BAK800 RS-1-A, rd. seq. So. shoulder, 0-4 in. 5 aliquots	Delvista Acres	Villa Ridge, Missouri
-BAK801 RS-1-B, rd. seq. 10 ft. offset South, 0-2 in.,	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK802 RS-1-C rd. seq. 25 ft. offset South, 0-2 in.,	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK803 RS-1-D rd. seq. North shoulder, 0-4 in.,	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK804 RS-1-E rd. seq. 10 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK805 RS-1-F rd. seq. 25 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK806 RS-2-A rd. seq. South shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK807 RS-2-B rd. seq. 10 ft. offset So. , 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK808 RS-2-C rd. seq. 25 ft. offset So. , 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK809 RS-2-D rd. seq. North shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK810 RS-2-E rd. seq. 10 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK811 RS-2-F rd. seq. 25 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK812 RS-3-A rd. seq. South shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK813 RS-3-B rd. seq. 10 ft offset South , 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK814 RS-3-C rd. seq. 25 ft offset South , 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK815 PS-3-D rd. seq. North shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK816 RS-3-E rd. seq. 10 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK817 RS-3-F rd. seq. 25 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.

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EPA #	SITE NAME	LOCATION
-BAK818 RS-4-A rd. seq, South shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK819 RS-4-B rd. seq, 10 ft. offset South, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK820 RS-4-C rd. seq, 25 ft. offset South, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK821 RS-4-D rd. seq, North shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK822 RS-4-E rd. seq, 10 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK823 RS-4-F rd. seq, 25 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK824 RS-5-A rd. seq, South shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK825 RS-5-B rd. seq, 10 ft. offset South, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK826 RS-5-C rd. seq, 25 ft. offset South, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK827 RS-5-D rd. seq, North shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK828 RS-5-E rd. seq, 10 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 4 aliquots.
-BAK829 RS-5-F rd. seq, 25 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK833 RS-6-D rd. seq, North shoulder , 0-4 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK834 RS-6-E rd. seq, 10 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK835 RS-6-F rd. seq, 25 ft. offset North, 0-2 in.	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK836 SS-1, stream sediment South of segment no.2, 0-4 in.,	Delvista Acres	Villa Ridge, Missouri 5 aliquots.
-BAK837 SS-2, stream sed. East branch of creek at West end of iquot	Delvista Acres	Villa Ridge, Missouri Del Vista Dr. 0-4 in. 5 al iquot

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ST. LOUIS INVESTIGATION
SAMPLE SUMMARY
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EPA #	SITE NAME	LOCATION
-BAK838	Delvista Acres	Villa Ridge, Missouri
SS-3, stream sed. West branch of creek at West end of		Del Vista Dr. 0-4 in. 5 al
iquot		
-BAK839	Delvista Acres	Villa Ridge, Missouri
Duplicate and Priority Pollutant of BAK815 lot no.		53249051
-BAK840	Delvista Acres	Villa Ridge, Missouri
Field Blank, rinsate of BAK815		
-BAK841	Delvista Acres	Villa Ridge, Missouri
Duplicate and Priority Pollutant of BAK836.		
-BAK842	Delvista Acres	Villa Ridge, Missouri
Field Blank, rinsate of BAK836		
-BAK843	Delvista Acres	Villa Ridge, Missouri
D-1, drainage area East, Hart front yard, 0-4 in.		4 aliquots.
-BAK844	Delvista Acres	Villa Ridge, Missouri
D-2, drainage area 2 (West) Hart front yard, 0-4 in.		4 aliquots

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